

"Novel Plant Promoters and Methods of Use"

Bruce, et al.
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SEQ ID No.	Source Organism	Element Name	Sequence
1	wheat	Lm1a	TGCCGGACACGTGGCGCGA
2*	maize	ABRE1	TTCGAGAAGAACCAGACGTGGCGGGC
3	maize	ABRE A	GCGCTCGCGCCACGTGGGCATGCCGCC
4	maize	Prolamin P-box	GGTTGTCACATGTGTAAAGGTGAAG
5	maize	Z2 and Z3 box	GATCATGCATGTCATTCCACGTAGATAA
6	CaMV	35S AS-2	GTGGATTGATGTGATATCTC
7*	CaMV	35S AS-1 (As-1)	TCCACTGACGTAAGGGATGACGCACAAT
8	<i>Agrobacterium T-DNA</i>	OCS ele	TGACGTAAGCGCTTACGTCA
9	tobacco	GCC-box	GACTAATGGCGGCTCTTATCTCAC
10	soybean	GH3 D1	GCCCTCGTGTCTCCTCAATAAGCTA
11	soybean	GH3 D3	GCAATCCTTTGTCTCAATAAGTTCCAC
12	soybean	P3	AAGGGAGACAACCTGTCTCCCA
13	pea	GT-1 rbcS3A	ATCTTGTGTGGTTAATATGGCTGC
14	Arabidopsis	TCA motif	CTTCATCTTCTTCTCCACCAACCG
15	Arabidopsis	C-repeat/DRE	ATTTTCATGGCCGACCTGCTTTT
16	soybean	HSE	AGAAGCTTCCAGAAGCTTCTAGAAG
17	maize	ERE	ATGCACGAATTGACCATTC
18	parsley	gln2 PR box	CATAAGAGCCGCCACTAAAAAAGACCG
19	wheat	HBP-1a	GGCCACGTCAACCAATCCGGC
20	maize	A1 PROMOTER	CGGGTCAGTGTACCTACCAACCTTAAACAC
21	maize	Bz1 PROMOTER	CGTCTAACTGCGACTGGCAGGTGCGCAC
22	parsley	CHS promoter	ATCCGGTGGCCGTCCTCCAACCTAACCT
23	rice tungro bacilliform virus	BoxII	CCAGTGTGCCCTTG
24*	rice	phyA GT-2 (GT-2)	TAGGTTAATTATTGGCGTAATTA
25	synthetic	GT-2 like	AAACGGTAAAAAGCGGTAGATTACC
26	oat	Phy PF1	GAAATAGCAAATGTTAAAAATA
27	soybean	AT-com	AAAAATAATATTATATTATTGAAA
28	Arabidopsis	AG site	ATAAGCTTTACCATTAAATGGTAAAGCTTGG
29	Arabidopsis	AP3 site	CAATACTTCCATTTTATGTAACCTAAGCTT
30	Arabidopsis	TGAC motif	GGTATCGTTGACCGAGTTGACT
31	petunia	CAGT motif	TTGACAGTGTCACTTGACAGTGTAC
32	maize	Dof1/Dof2	GATCAAAAAAGTGAGATC
33	parsley	pr2 oligomer II	ATTCATAGTGTGCTAATTGTTTAAAGATTG
34	barley	CE1	TGCCATTGCCACCGGCCCCCA
35	soybean	H-box1	AGCAGACATGGTAGGCAGTGCA
36	bean	H-box2	TCACCTACCCTACTTCCTATCC
37	barley	lox1	AATCGTCATGAATGAAGTCATGTGACGGCT
38	tobacco	PR-2d	AGGGGACAGCTTCGACCTCTCTCC
39	synthetic	ROL6	TCAGAACACGCAAGTTGCCAGCTCACCCAAC
40	maize	SGS box 2/3	AGATATGCATGATCTTTAAC
41	maize	SGS box 6-8	TGCGGTTTCTTTTGGCACAATGGCATGA
42	maize	MS-BS7 box1-3	AAATCTACCTCCAACCAACCCAGCTTTGTA
43	maize	MS-BS7 box22-24	ATCACACCAACTTATCACCTAGAAAAGCGA
44	soybean	AuxRE DR5	CCTTTTGTCTCCCTTTTGTCTC
45*	rice	PCNA IIA	CGAGGTGGGCCCGTAGGTGGGCCCGTAT
46	parsley	PAL1 Box E	TACCTTTTACCCTTCATGTGTCATC
47	pea	myb26	GTCGACAAAAGTTAGGTTAGCAGGC
48	barley	GARE	GGCCGATAACAACTCCGGCC
49	tomato	E8	TTTTATTCCCAACAATAGAAAGTCTTG
50	tobacco	E1RE	GATTTGGTCAGAAAGTCAGTCC
51	wheat	CA	GTAGTGCCACCAACACAACATACCAAATTA
52	rape	napA	GATCCACATACACATACACG
53	sunflower	HaG3-A -75	CAGCTCCAAATGGTGATCTTCTCCTGG
54	sunflower	HaG3-A -111	TATACAGATGTAGCATGTCT
55	maize	Prolamin box	TTGACGTGTAAAGTAAATTTACAAC
56	pea	TGAC-like	GACACGTAGAATGAGTCATCAC
57	maize	SP20+6	GTCCCTCTCCCGTCCAGAGAAACCC
58	tobacco	MSA RT1	TGTCCCCCAACGGTCTTATT
59*	Arabidopsis	DRE rd29A1 (DRE 1)	ATATCATACCGACATCAGTT
60	Arabidopsis	DRE rd29A2	ATATACTACCGACATGAGTT
61	Arabidopsis	CGF-1	GATAAAGATTACTTCAGATATAACAAACGTT
62	tobacco	ltp1 D1	TTCCCTAGCTAGATACCTTCAAT
63	pea	ENBP1	CGATTATTGAGATATATAATAAATTAG
64	tomato	MRE	CGAAACATACGCGCGAAATT

FIG. 1

POOL#	9	10	11	12	13	14	15	16
1	Em1a	ABRE1	ABREa	P-Box	ZZZ3	As-2	As-1	Ocs
2	GCC	GH3D1	GH3D3	P3	GT-1	TCA	C/DRE	HSE
3	ERE	PRbox	HBP-1a	A1	Bz1	CHS	BoxII	GT-2
4	ROL	PF1	AT-com	AG	AP3	TGAC	CAGT	DOF
5	PR2	CE1	H-box1	H-box2	Lox1	PR-2d	ROL6	USA
6	USB	USC	USD	DR5	PCF	PAL1	myb26	GARE
7	E8	E1RE	CA	napA	HaG3.75	HaG3.111	P-box2	TGAC2
8	SP20+6	MSA	DRE1	DRE2	CGF1	ltp1D1	ENBP1	MRE

FIG. 2

POOL#	9	10	11	12	13	14	15	16
1	Em1a	ABRE1	ABREa	P-Box	Z2Z3	As-2	As-1	Ocs
2	GCC	GH3D1	GH3D3	P3	GT-1	TCA	C/DRE	HSE
3	ERE	PRbox	HBP-1a	A1	Bz1	CHS	BoxII	GT-2
4	ROL	PF1	AT-com	AG	AP3	TGAC	CAGT	DOF
5	PR2	CE1	H-box1	H-box2	Lox1	PR-2d	ROL6	USA
6	USB	USC	USD	DR5	PCF	PAL1	myb26	GARE
7	E8	E1RE	CA	napA	HaG3.75	HaG3.111	P-box2	TGAC2
8	SP20+6	MSA	DRE1	DRE2	CGF1	ltp1D1	ENBP1	MRE

FIG. 3

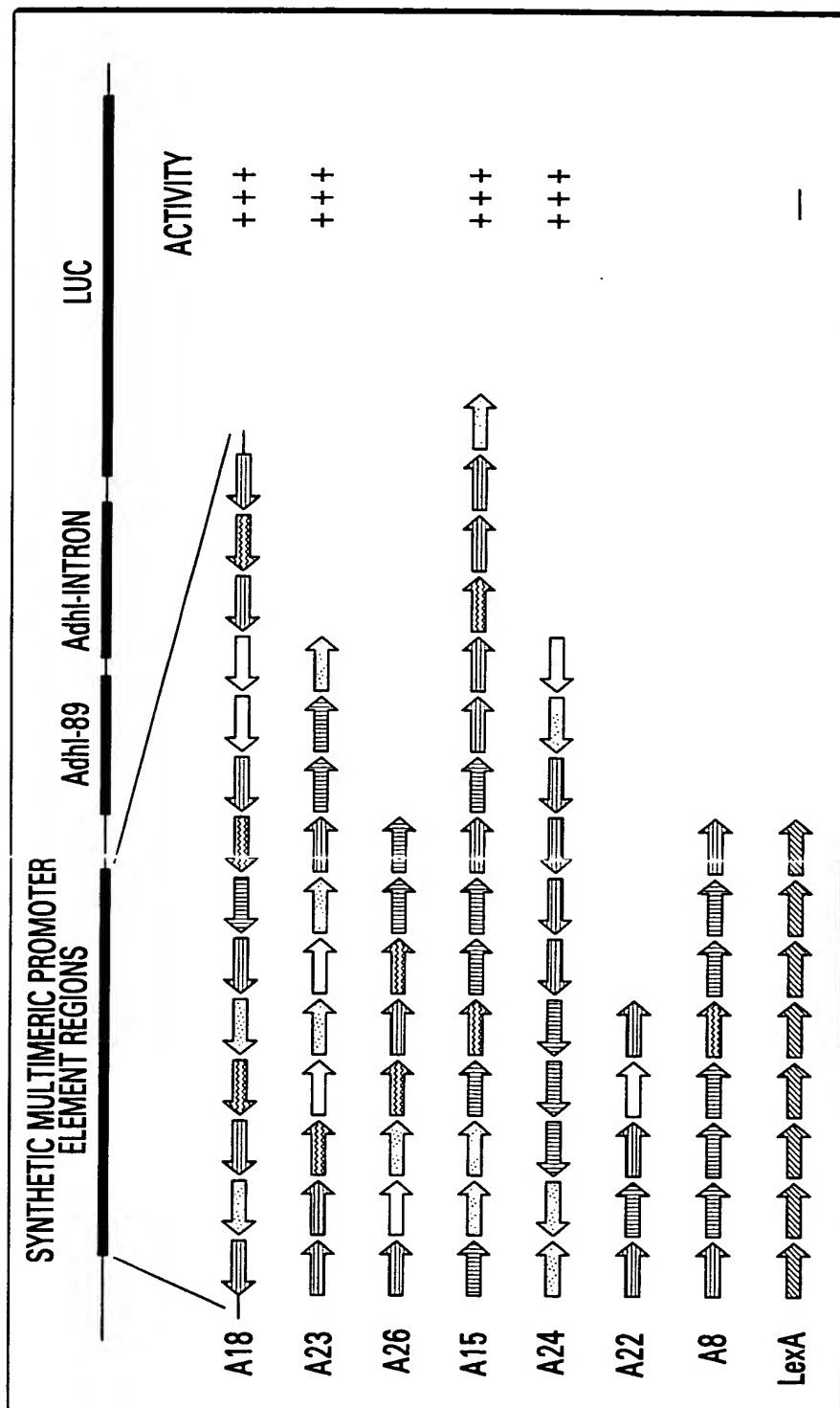


FIG. 4

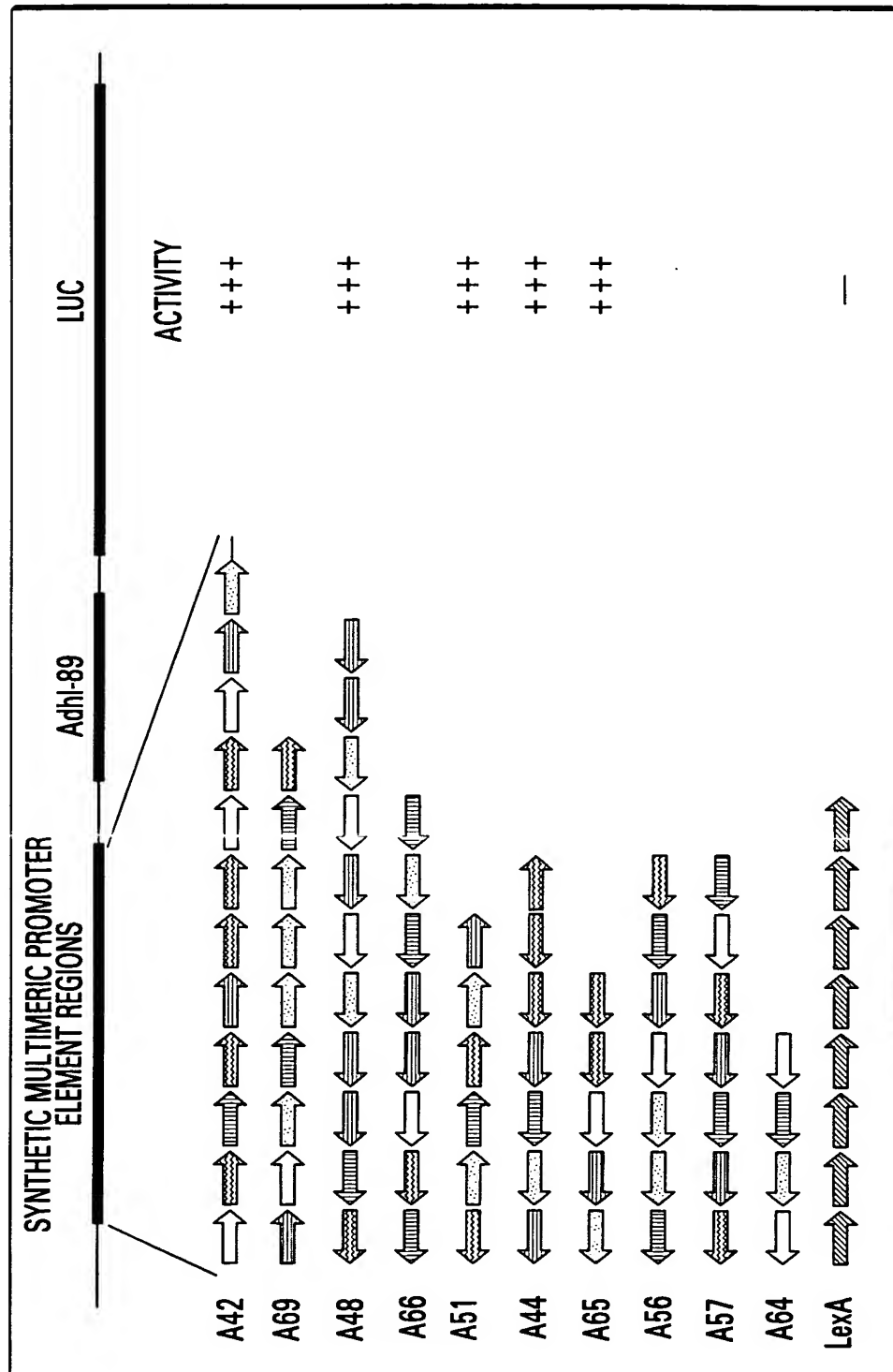
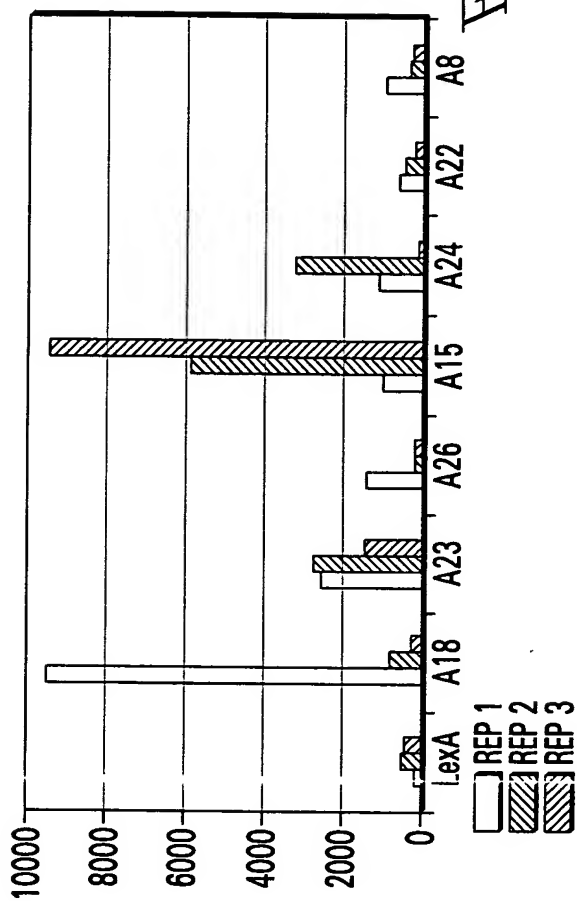
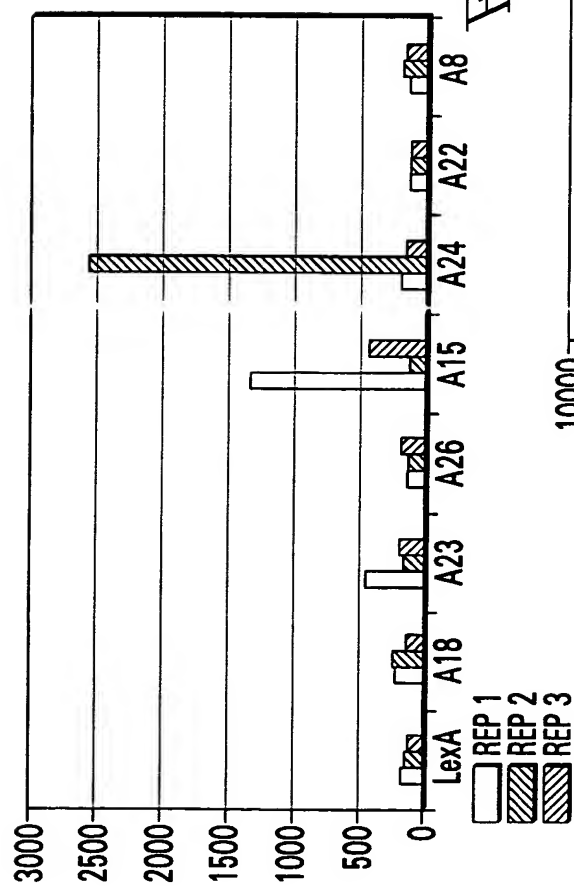
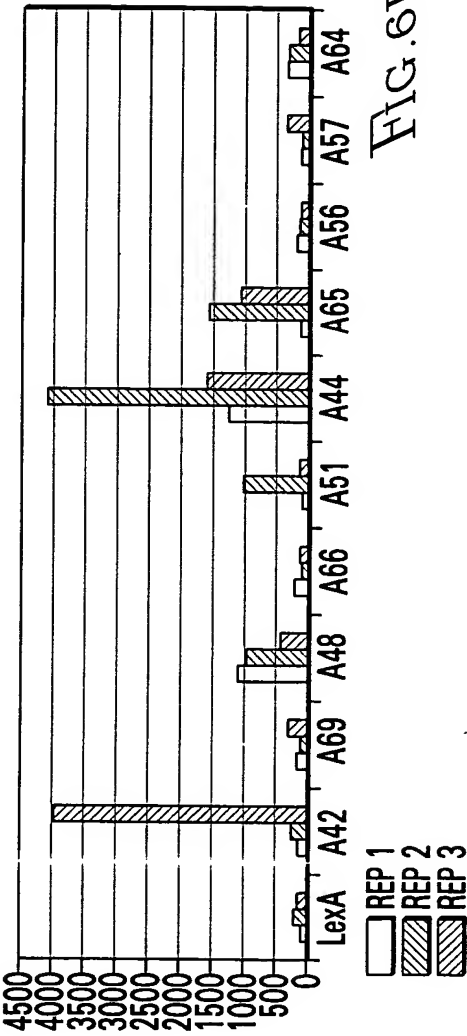
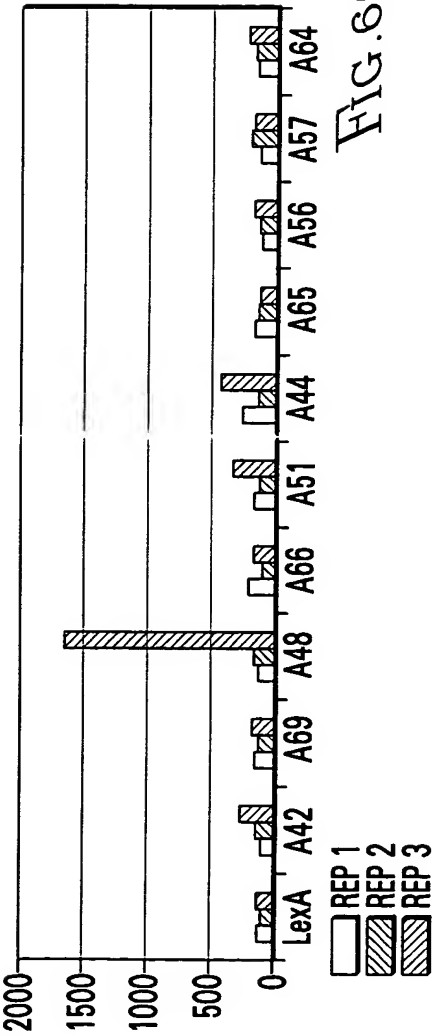


FIG.5





A15 (PHP14147) 413bp

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          GT-2                      ABRE1
TAGGTTAATTTATTGGGCGGTAATTATAGCTTCGAGAAGAACCGAGACGTGGCGGGCTAG
          ABRE1                      GT-2
CTTCGAGAAGAACCGAGACGTGGCGGGCTAGCTAGGTTAATTATTGGCGGGTAATTATAG
          AS-1                      GT-2
CTCCACTGACGTAAGGGATGACGCACAATTAGCTAGGTTAATTATTGGCGATAATTATAG
          GT-2                      DRE1
CTAGGTTAATTATTGGCGGTAATTATAGCATATCATACCGACATCAGTTTAGCTAGGTTA
          GT-2                      DRE1                      DRE1
ATTATTGGCGGTAATTATAGCATATCATACCGACATCAGTTTAGCATATCATACCGACAT
          AS-1                      DRE1
CAGTTTAGCTCCACTGACGTAAGGGATGACGCACAATTAGCATATCATACCGACATCAGT
          DRE1                      ABRE1
TTAGCATATCATACCGACATCAGTTTAGCTTCGAGAAGAACCGAGACGTGGCG
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Fig. 7

A18 (PHP14148) 392bp

DRE1 ABRE1
GCTAACTGATGTCGGTATGATATGCTAGCCCGCCACGTCTCGGTTCTTCTCGAAGCTAACTGA
DRE1 AS-1 ABRE1
TGTCGGTATGATATGCTAATTGTGCGTCATCCCTTACGTCAGTGGAGCTAGCCCGCCACGTCTCG
DRE1 GT-2
GTTCTTCTCGAAGCTAACTGATGTCGGTATGATATGCTAATAATTACCGCCAATAATTAACCTAG
AS-1 DRE1
CTAATTGTGCGTCATCCCTTACGTCAGTGGAGCTAACTGATGTCGGTAGATATGCTAATACGGG
PCF PCF
CCACCTACGGGCCCACCTCGGCTAATACGGGCCCACCTACGGGCCCACCTCGGCTAACTGATG
DRE1 AS-1 DRE1
TCGGTATGATATGCTAATTGTGCGTCATCCCTTACGTCAGTGGAGCTAACTGATGTCGGTATGA
TA

Fig.8

DRE1 DRE1 AS-1
TAGCATATCATACCGACATCAGTTTAGCATATCATACCGACATCAGTTTAGCTCCACTGACGTAA
 PCF1 ABRE1
 GGGATGACGCACAATTAGCCGAGGTGGGCCCCGTAGGTGGGCCCCGTATTAGCTTCGAGAAGAACC
 PCF1 ABRE1
 AGACGTGGCGGGCTAGCCGAGGTGGGCCCCGTAGGTGGGCCCCGTATTAGCTTCGAGAAGAACTGAG
 DRE1 GT-2
 ACGTGGCGGGCTAGCATATCATACCGACATCAGTTAGCTAGGTTAATTATTGGCGGTAATTATA
 GT-2 ABRE1
 GCTAGGTTAATTATTGGCGGTAATTATAGCTTCGAGAAGAACCAGGACGTGGC

FIG.9

A24 (PHP14150) 278bp

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      ABRE1                      ABRE1                      GT-2
TAGCTTCGAGAAGACGTGGCGGGCCGCCACGTCTCGGTTCTTCTCGAAGCTATAATTACCGCCAA
      GT-2                      GT-2
TAATTAACCTAGCTATAATTACCGCCAATAATTAACCTAGCTATAATTACCGCCAATAATTAACC
      DRE1                      DRE1                      DRE1
TAGCTAAACTGATGTCGGTATGATATGCTAAACTGATGTCGGTATGATATGCTAAACTGATGTCG

      DRE1                      ABRE1
GTATGATATGCTAAACTGATGTCGGTATGATATGCTAGCCCGCCACGTCTCGGTTCTTCTCGAAG
      PCF
CTAATACGGGCCCCACCTA
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Fig.10

A42 (PHP14151) 348bp

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                PCF                                AS-1
CGAGGTGGGCCCCGTAGGTGGGCCCCGTATTAGCTCCACTGACGTAAGGGATGACGCACAATTAGCT
                GT-2                                AS-1
AGGTTAATTATTGGCGGTAATTATAGCTCCACTGACGTAAGGGATGACGCACAATTAGCATATCA
                DRE1                                AS-1
TACCGACATCAGTTTAGCTCCACTGACGTAAGGGATGACGCACAATTAGCTCCACTGACGTAAGG
                PCF                                AS-1
GATGACGCACAATTAGCCGAGGTGGGCCCCGTAGGTGGGCCCCGTATTCCACTGACGTAAGGGATGA
                PCF                                DRE1
CGCACAATTAGCCGAGGTGGGCCCCGAGGTGGGCCCCGTATTAGCATATCATACCGACATCAGTTTA
                ABRE1
GCTTCGAGAAGAACCAGTCGAG
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Fig.11

A44 (PHP14152) 198bp

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                DRE1                      ABRE1
TAAACTGATGTCGGTATGATAATGCCAACCCGGCAACGTCCCGGTTCTTCTCGAAGCTATAATTA
      GT-2                      DRE1                      As-1
CCGCCAATAATTAACCTAGCTAAACTGATGTCGGTATGATATGCTAATTGTGCGTCATCCCTTAC
                As-1                      As-1
GTCAGTGGAGCTAATTGTGCGTCATCCCTTACGTCAGTGGAGCTCCACTGAACGTAAGGGATGAC
GTC
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Fig.12

A48 (PHP14153) 302bp

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          AS-1                      GT-2
TTGTGCGTCATCCCTTACGTCAGTGGAGTAATTACCGCCAATAATTAACCTAGCTAAACTGATGT
  DRE1                      DRE1                      ABRE1
CGGTATGATATGCTAAACTGATGTCGGTATGATATGCTAGCCCGCCACGTCTCGGTTCTTCTCGA
          PCF                      DRE1
AGCTAATACGGGCCCACCTACGGGCCCACCTCGGCTAAACTGATGTCGGTATGATATGCTAATAC
          PCF                      ABRE1
GGGCCCACCTACGGGCCCACCTCGGCTAGCCCGCCACGTCTCGGTTCTTCTCGAAGCTAAACTGA
  DRE1                      DRE1
TGTCGGTATGATATGCTAAACTGATGTCGGTATGATATGCTA
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FIG.13

A51 (PHP14154) 157bp

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          AS-1                               ABRE1
GTGCGTCATCCCTTACGTCAGTGGAGCTTCGAGAAGAACCGAGACGTGGCGGGCTAGCTAGGTTA
      GT-2                               AS-1       ABRE1
ATTATTGGCGGTAATTATAGCTCCACTGACGTAAGAGCTTCGAGAAGAACCGAGACGTGGCGGGC
          DRE1
TAGCATATCATACCGACATCAGTTTAG
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FIG.14